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PATENT CASE NO. 8371/13

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application: )  
)  
Robert M. Setbacken et al. )  
) Group Art Unit: 2878.  
Serial No.: 10/829,546 )  
) Examiner: Monbleau, Davienne N.  
Filed: April 22, 2004 )  
)  
For: POSITIONAL ENCODER )  
ASSEMBLY )

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Appellants request review of the Final Office Action mailed July 12, 2006 (hereinafter "the Final Office Action"), in the above-identified application as to Claims 1-14 and 27-47. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested for the reasons stated on the attached sheets. No more than five (5) pages are provided. Claims 15-26 have been cancelled.

**REMARKS**

**A. Okumura et al. and Chin et al.**

Claims 1, 3-14 and 47 are rejected under 35 U.S.C. § 103 as being obvious in view of Okumura et al. and Chin et al. Appellants traverse the rejection. In particular, independent claim 1 recites a positional encoder assembly that includes both a lead frame and a circuit board assembly "wherein the lead frame is disposed on the circuit board assembly such that the sensor is disposed at a predetermined elevation with respect to the circuit board assembly." The Final Office Action concedes that Okumura et al. does not disclose either a lead frame or a circuit

board assembly. The Final Office Action asserts that Chin et al. disclose both a lead frame and a circuit board and so it would have been obvious to use Chin et al.'s lead frame and circuit board in Okumura et al.'s device. Appellants disagree with the assertion. The Final Office Action has relied on the following passage of Chin et al. as disclosing or suggesting the recited lead frame and circuit board:

The substrate used may be a leadframe, an insert-molded leadframe, a double-sided printed circuit board (PCB), a ceramic substrate or a micro-interconnected device (MID) wherein the optical emitter and the optical detector can be mounted on both the first surface, for example a top surface, and the second surface, for example a bottom surface, of the substrate. A flat substrate is preferred as it gives a more compact design of the dual-axis optical encoder device according to the invention. Therefore, a leadframe is used as the substrate in the preferred embodiment of the invention, as it is slimmer compared to the other types of substrates, resulting in a smaller and more compact dual-axis optical encoder device. A leadframe substrate is also less expensive compared to the other types of substrate. (Paragraph 0014).

The first sentence of the above passage clearly states that “[t]he substrate used may be a leadframe, an insert-molded leadframe, a double-sided printed circuit board (PCB), a ceramic substrate or a micro-interconnected device (MID)” (emphasis added). The use of the word “or” clearly means that Chin et al. only contemplated using either a leadframe or a printed circuit board, not both. The fact that Chin et al. does not disclose using a lead frame in combination with a circuit board assembly is confirmed by Chin et al.'s statement that “[t]he substrate may be a leadframe, an insert-molded leadframe, a double-side PCB, a ceramic substrate or a micro-interconnecting device, wherein an optical encoder can be mounted on each side” (emphasis added, Paragraph 0034).

The above arguments were presented on pages 10 and 11 of Appellants' Amendment filed on May 23, 2006 (hereinafter “Appellants' Amendment”). The Final Office Action asserts at page 10 that Chin et al. discloses “that both leadframes and printed circuit boards may be used as a frame/support.” If the word “both” is to mean that Chin et al. discloses that leadframes and printed circuit boards in combination can be used as a frame/support, then that is incorrect since

it is contrary to the explicit teaching of Chin et al. that either, not both, were contemplated. The Final Office Action at page 10 also states that “although Chin doesn’t specifically teach that a leadframe may be attached on top of a printed circuit board, it is well known in the art that leadframes are typically connected to some type of circuit board.” The Final Office Action appears to be asserting that the recited attachment of a leadframe to a printed circuit board is common knowledge even though it fails to provide any prior art to back up its assertion. It is not common knowledge. While it is always difficult to prove a negative premise, Appellants believe that it can be inferred from the prosecution history of the present application. In particular, there are twenty five references of record, including Chin et al., in the present application and yet the Examiner has not been able to show from any one of them (or from any other reference) that it is common knowledge that a leadframe may be attached on top of a printed circuit board. This failure is evidence that the references do not support the assertion. Accordingly, the Examiner is required to provide evidence that it is common knowledge pursuant to MPEP § 2144.03C. If no such evidence is provided, then the rejection should be withdrawn and the claims allowed.

Chin et al. also does not suggest combining a lead frame with a circuit board assembly since Chin et al. prefers a flat substrate, such as a lead frame, since “it gives a more compact design” (Paragraphs 0014 and 0034). Since disposing a lead frame on a circuit board assembly would make the device less compact, there is a teaching away from the claimed invention and so claim 1 should be deemed patentable over the combination of Okumura et al. and Chin et al.

**B. Okumura et al., Chin et al. and Franklin et al.**

Claim 2 is rejected under 35 U.S.C. § 103 as being obvious in view of Okumura et al., Chin et al. and Franklin et al. Claim 2 depends directly on claim 1. As pointed above in Section A, there is no motivation in Chin et al. to alter Okumura et al. to dispose a lead frame on a circuit board assembly. Since there is no motivation in Franklin et al. to alter Okumura et al. to have a lead frame disposed on a circuit board assembly, the rejection is improper and should be withdrawn.

**C. Chin et al. and Okumura et al.**

**1. Claims 27, 28, 30-36 and 46**

Claims 27, 28, 30-36 and 46 are rejected under 35 U.S.C. § 103 as being obvious in view of Chin et al. and Okumura et al. Appellants traverse the rejection. In particular, independent claim 27 recites a positional encoder assembly that includes a lead frame supported upon a circuit board assembly. The Final Office Action asserts that it would have been obvious to alter Chin et al. “to connect the leadframe to the circuit board.” However, this assertion implies that Chin et al. discloses that its device uses both a leadframe and a circuit board. As pointed out above in Section A, Chin et al. does not disclose using both. Indeed, Chin et al. suggests the contrary since combining both would lead to a device which is less compact than using a lead frame or a circuit board alone. Since Okumura et al. does not suggest altering Chin et al. to have a lead frame supported upon a circuit board assembly, the rejection is improper and should be withdrawn.

**2. Claims 37, 38 and 40-45**

Claims 37, 38 and 40-45 are rejected under 35 U.S.C. § 103 as being obvious in view of Chin et al. and Okumura et al. Appellants traverse the rejection. In particular, independent claim 37 recites a positional encoder assembly that includes a lead frame supported upon a circuit board assembly. As pointed out above in Section C.1, neither Chin et al. nor Okumura et al. suggest altering Chin et al. to have a lead frame supported upon a circuit board assembly. Without such suggestion, the rejection is improper and should be withdrawn.

**D. Chin et al., Okumura et al. and Franklin et al.**

**1. Claim 29**

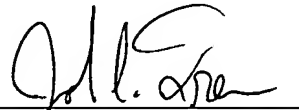
Claim 29 is rejected under 35 U.S.C. § 103 as being obvious in view of Chin et al., Okumura et al. and Franklin et al. Claim 29 depends directly on claim 27. As pointed above in Section C.1, there is no motivation in either Chin et al. or Okumura et al. to alter Chin et al. to have a lead frame supported upon a circuit board assembly. Franklin et al. also does not suggest altering Chin et al. to have a lead frame supported upon a circuit board assembly. Without such suggestion, the rejection is improper and should be withdrawn.

2. Claim 39

Claim 39 is rejected under 35 U.S.C. § 103 as being obvious in view of Chin et al., Okumura et al. and Franklin et al. Claim 39 depends directly on claim 37. As pointed above in Section C.2, there is no motivation in either Chin et al. or Okumura et al. to alter Chin et al. to have a lead frame supported upon a circuit board assembly. Franklin et al. also does not suggest altering Chin et al. to have a lead frame supported upon a circuit board assembly. Without such suggestion, the rejection is improper and should be withdrawn.

In summary, the Examiner has clearly failed to meet his burden to establish a *prima facie* case of unpatentability of the pending claims in the present Office Action. Accordingly, the rejections should be withdrawn and the claims allowed.

Respectfully submitted,



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